DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: GLEN LAKE Lake Area (ha): 48.08 Maximum depth (m): Town: GOFFSTOWN County: Hillsborough 15.8 Mean depth (m): 5.9 River Basin: Merrimack Volume (m³): 2826500 Relative depth: Latitude: 43°01'00" N Longitude: 71°34'30" W 2.0 Shore configuration: 1.91 271 Areal water load (m/yr): 470.6 4700 Flushing rate (yr^{-1}) : 80.00 Elevation (ft): Shore length (m): Watershed area (ha): 52400.0 P retention coeff.: 8 watershed ponded: 1.2 Lake type: 0.01 artificial

BIOLOGICAL:	3 February 1992	25 June 1991
DOM. PHYTOPLANKTON (% TOTAL) #1	SPARSE - NO DOMINANT	ASTERIONELLA 75%
#2		TABELLARIA 20%
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		1445
CHLOROPHYLL-A (µg/L)		10.43
DOM. ZOOPLANKTON (% TOTAL) #1	SPARSE - NO DOMINANT	ACTINOPHYRS 93%
#2		
#3		
ROTIFERS/LITER	<1	<1
MICROCRUSTACEA/LITER	1	54
ZOOPLANKTON ABUNDANCE (#/L)	1	1079
VASCULAR PLANT ABUNDANCE		Sparse
SECCHI DISK TRANSPARENCY (m)		1.8
BOTTOM DISSOLVED OXYGEN (mg/L)	9.6	0.0
BACTERIA (fecal col., #/100 ml) #1		< 1
#2		< 1
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 11.0 Hypolimnion volume (m³): 153500 Anoxic volume (m³): 86000

CHEMICAL:			GLEN LAKE		
	3 Febru	lary 1992	25 3	June 1991	· · · · · · · · · · · · · · · · · · ·
DEPTH (m)	4.0	10.0	3.0	9.0	13.0
pH (units)	6.7	6.4	7.2	6.7	6.3
A.N.C. (Alkalinity)	5.2	4.1	9.1	9.0	8.9
NITRATE NITROGEN	0.10	0.15	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS	0.007	0.007	0.020	0.021	0.028
CONDUCTIVITY (µmhos/cm)	76.5	93.5	78.0	76.4	63.3
APPARENT COLOR (cpu)	22	22	44	53	85
MAGNESIUM			0.84		
CALCIUM			4.3		
SODIUM			8.4		
POTASSIUM			0.68		
CHLORIDE	14	18	14		9
SULFATE	6	6	12		4
TN : TP					
CALCITE SATURATION INDEX			2.5		

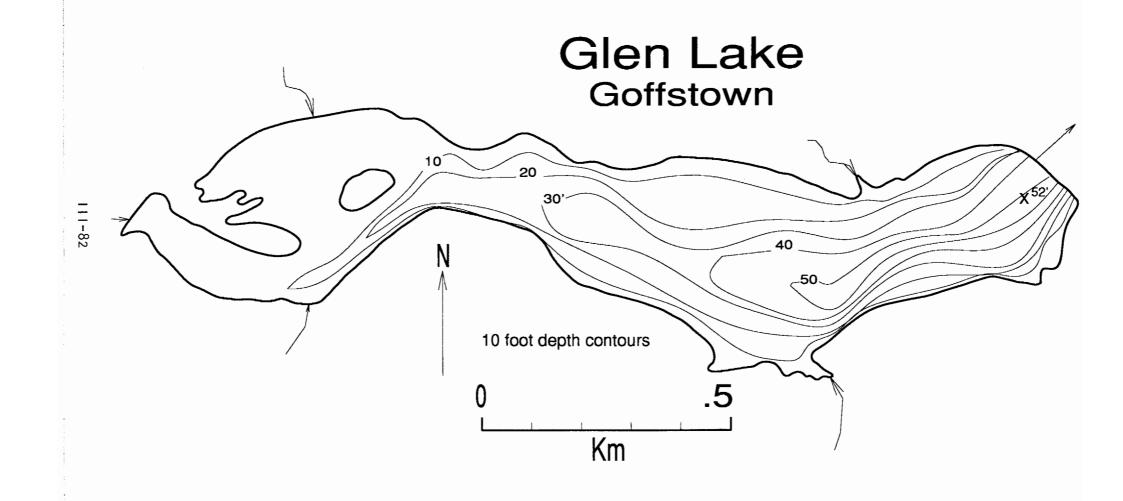
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1991

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	4	0	2	10	Meso.

COMMENTS:

- 1. Also known as Greggs Falls.
- 2. This is an impoundment of the Piscataquog River behind a hydro-electric dam.
- 3. Good access to the pond at a roadside beach area near the dam.
- 4. This lake was previously surveyed in 1979. It went from eutrophic to mesotrophic, but it was borderline mesotrophic/eutrophic in both years. There was no significant change in water quality between the two years.
- 5. This lake has a history of nuisance blue-green algae problems due to a treated sewage discharge from the Town of Goffstown. In September of 1991 this sewage discharge was diverted out of Glen Lake. Improved water quality is expected as a result of diverting the discharge.



FIELD DATA SHEET

LAKE: GLEN LAKE TOWN: GOFFSTOWN
DATE: 06/25/91 WEATHER: CLEAR, WARM & BREEZY

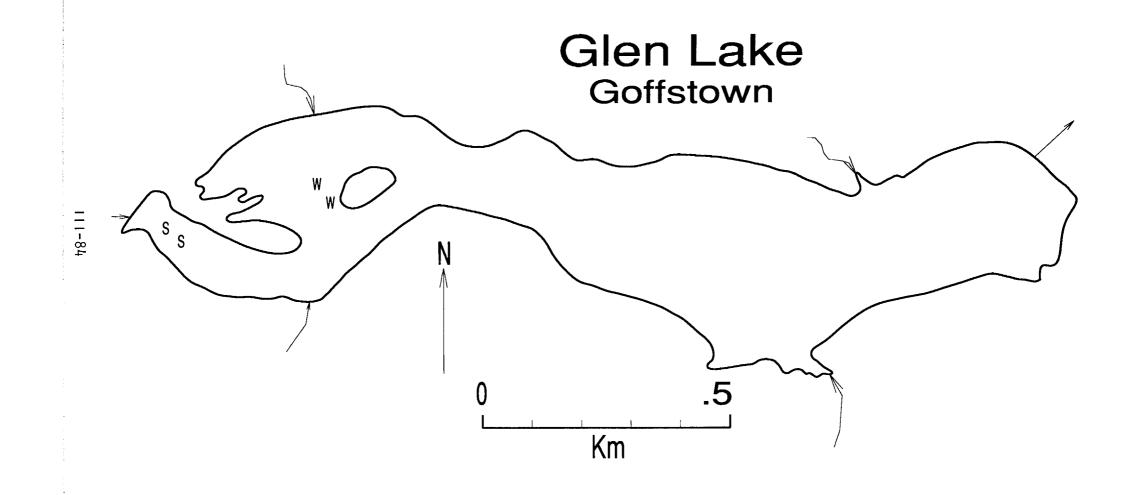
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYG SATURA	
0.1	23.2	9.2	107	8
1.0	22.8	9.2	105	8
2.0	22.2	9.2	105	8
3.0	22.0	9.2	105	8
4.0	21.8	8.5	94	8
5.0	20.5	6.6	72	8
6.0	19.2	6.2	67	8
7.0	18.9	6.0	63	8
8.0	18.2	5.8	60	8
9.0	17.5	6.2	64	8
10.0	15.8	5.0	50	8
11.0	12.0	2.5	23	8
12.0	9.0	1.7	14	8
12.5	8.0	1.2	10	8
13.5	7.9	0.0	0	8
15.5	7.0	0.0	0	8

SECCHI DISK (m): 1.8 COMMENTS:

BOTTOM DEPTH (m): 15.9

TIME: 1130

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: GLEN LAKE	TOWN: GOFFSTOWN	DATE: 06/25/91	
Key	PLANT	NAME	ARIMDANCE	
	GENERIC	COMMON	ABUNDANCE	
W	Potamogeton	Pondweed	Sparse	
S	Sparganium	Bur reed	Sparse	
		OVERALL ABUNDANCE:	Sparse	

GENERAL OBSERVATIONS:

- Lake had a musty blue-green algae smell; algae clumps visible in the water column but not forming surface scums.
- 2. The lake was treated with copper sulfate almost annually during the 1970's and 80's to control nuisance blue-green algal blooms.
- 3. Cryptomonas (30%) and Chroomonas (20%) were the dominant genera of whole water plankton.